

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1. (currently amended): A method for manufacturing a ~~single crystal~~ SiC layer on a substrate ~~having a surface~~, the substrate including at least one of Si or C, the method comprising the steps of:

a first step of coating the substrate with a thin single crystal SiC layer by heating the substrate under existence of a raw material containing C or Si, or C and Si to induce surface chemical reaction between said raw material and Si or C contained in the substrate, thereby forming the thin single crystal layer; and

a second step of depositing SiC on the thin single crystal SiC layer, which is formed in the first step, by the vapor phase growth method or the liquid phase growth method;

the first step being carried out in the manner such that the raw material is supplied in the vicinity of the surface of the substrate, and that the raw material in the vicinity of the surface of the substrate is given a partial pressure higher than 100 times that of the impurity,

~~at least by a predetermined rate than that of an impurity, thereby suppressing the impurity from reaching the surface of the substrate and preventing the surface of the substrate from being etched by the impurity~~

the first step comprising a temperature elevating step of elevating the temperature of the substrate from a first temperature T_e at which etching of the surface of the substrate by the impurity is started to a second temperature at which the thin single crystal SiC layer is formed,
and

the temperature elevating step being carried out at a temperature elevating rate equal to or higher than 150°C/minute.

Claim 2 (canceled).

Claim 3. (previously presented): A method as claimed in claim 1, wherein:

at least one material selected from the group consisting of C_nH_{2n} ($2 \leq n \leq 3$), C_nH_{2n+2} ($1 \leq n \leq 3$), C_nH_{2n-2} ($1 \leq n \leq 3$), CCl_4 , CHF_3 , and CF_4 is used as the material containing C and used in the first step for forming the single crystal SiC layer.

Claim 4. (previously presented): A method as claimed in claim 1, wherein:

at least one material selected from the group consisting of SiH_2Cl_2 , SiH_4 , $SiCl_4$, $SiHCl_3$, Si_2H_6 , and Si_2Cl_6 is used as the material containing Si and used in the first step of forming the single crystal SiC layer in addition to the material containing C.

Claim 5. (currently amended): A method as claimed in claim 1, wherein:

at least one material selected from the group consisting of $Si(CH_3)_4$, $SiH_2(CH_3)_2$, $SiH(CH_3)_3$, $Si_2(CH_3)_6$, $(CH_3)_3SiCl$, and $(CH_3)_2SiCl_2$ is used as material containing C and Si used in the step for forming the thin single crystal SiC layer.

Claims 6-9. (withdrawn):

Claim 10. (withdrawn):

Claim ~~10~~ 11. (currently amended): A method as claimed in claim 1, wherein: the substrate is a Si single crystal substrate.